



Research article

A 20 year retrospective study of rape pattern in Ebonyi State, South-East Nigeria



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ABSTRACT

This paper investigates patterns of rape in Ebonyi state, South-East Nigeria. This was a retrospective study in which data on rape over a twenty year period (January 1999 to December 2018) were obtained from the records of the Criminal Investigation Department, Nigerian Police Force, State Headquarters, Abakaliki and the Ebonyi State Ministry of Justice, Abakaliki. The data was analysed with the Statistical Package for Social Sciences version 20 software (SPSS Inc, Chicago, IL, USA). The Chi square test and Students' t-test test were used to analyze the categorical and continuous variables respectively. A multinomial Logistics Regression (MLR) and Pearson correlation Coefficient were used to determine the influence of the socio-demographic characteristics of the victims and perpetrators on rape of the victims. A P-value of less than 0.05 was considered statistically significant. This study showed an association between recreational drug use by the perpetrators and rape of the victims. There was a nexus among types of perpetrators, site of committed crime and social habits of the perpetrators with rape of the victims. Victims in urban residential areas were more likely to be raped based on the types of the perpetrators, site of the crime committed and social habits of the perpetrators than the victims in rural areas. Victims who were <18 years were more likely to be raped by neighbors (P = 0.01). Out of 8,286 perpetrators charged to court, it was only 2.9% of them that were convicted. Measures to stop recreational drug use will be useful in stemming the tide of increasing rape cases in the state. The relevant sections of Nigerian law on rape need to be altered to broaden its scope and help punish the perpetrators in order to serve as deterrents to others. Education and empowerment of females will help reduce rape and its associated stigma thereby enhancing the perseverance of the victims to the logical conclusion of the case.

1. Introduction

Sexual assault is an unpleasant experience that primarily affects adolescent girls and young adult women (Ajah et al., 2020; Danielson and Holmes, 2004). It is often associated with psychological, physical and social distress that in extreme cases, may lead to psychiatric illnesses such as anxiety, depression, post-traumatic stress disorder and suicidal tendency (Ibrahim et al., 2017; Ajah et al., 2014; Caffo and Belaise, 2003; Bacchus et al., 2001). Sexual assault can also cause sexually transmitted infections and unwanted pregnancy. And involves the activities ranging

from rape to physically less intrusive sexual contacts, whether attempted or completed (Ajah et al., 2020; Haile et al., 2013). Rape occurs when there is penile penetration of the victim's vagina, mouth, or anus without the victim's consent (Home Office, 2004). This definition on rape applies to most European Countries and the United States of America, though with slight variations based on laws of the individual countries. Section 357 of the Nigerian Criminal Code Act, CAP 77, LFN 1990 defines rape as thus: "Any person who has unlawful carnal knowledge of a woman or girl, without her consent, or with her consent, if consent is obtained by force or by means of threat or intimidation of any kind, or by fear of

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harm, or by any means of false and fraudulent representation as to the nature of the act, or in the case of a married woman, by personating her husband.” The punishment for rape under section 358 of Nigerian criminal code is life imprisonment (Areh et al., 2020; Onyejekwe, 2008). Sexual defilement is the deflowering or debauchment and corruption of a female not necessarily by use of force but because she is under a certain age (Briggs, 2003). The Nigerian criminal code stipulates that a girl child is defiled when she is less than 13 years of age. The World Health Organization has reported that 1 in every 3 women is a victim of sexual assault (Ajah and Ugwuoke, 2018; World Health Organization, 2013). Majority of sexual assault victims are in Africa, Middle East and South-East Asia (World Health Organization, 2013). In Nigeria, rape accounted for 8.8% and 5.6% of gynecological emergencies in Enugu, South-East Nigeria and Jos, North-Central Nigeria respectively (Ajah, 2018; Ohayi et al., 2015; Daru et al., 2011). Approximately 16.5% of female undergraduates in Nnewi, South-East Nigeria were rape survivors (Adogu et al., 2014).

The true incidence of rape is not known in Nigeria. The current incidence may be an underestimate mainly due to fear of stigmatization which limits reportage by victims (Anthony et al., 2021; Kullima et al., 2010). Despite the fact that rape is abhorred by the Nigerian law, culture

and religion, anecdotal evidence suggests that the incidence appears to be increasing. Ebonyi State, being an integral part of Nigeria, may not be excluded from this public health challenge. Majority of the studies on this subject matter were hospital-based which may not be a true reflection in the society. There was no previous study on the subject matter in Ebonyi State. Furthermore, despite an extensive literature search, the authors could not find a previous study on the pattern of rape and how the cases were treated by any Nigerian law enforcement agency. It was because of these reasons that the study on pattern of rape in Ebonyi State, South-East Nigeria, was embarked upon. Hence, the present study was aimed at determining the socio-demographic characteristics of the victims and perpetrators, the proportion of the cases adjudicated in the courts and the proportion of the adjudicated cases convicted (see Figure 1).

2. Methods

2.1. Study area

Ebonyi State has an estimated population of 2.2 million according to the 2006 national census. It occupies a land mass of 5,935 km². Approximately 75% of the population of Ebonyi State dwell in rural areas

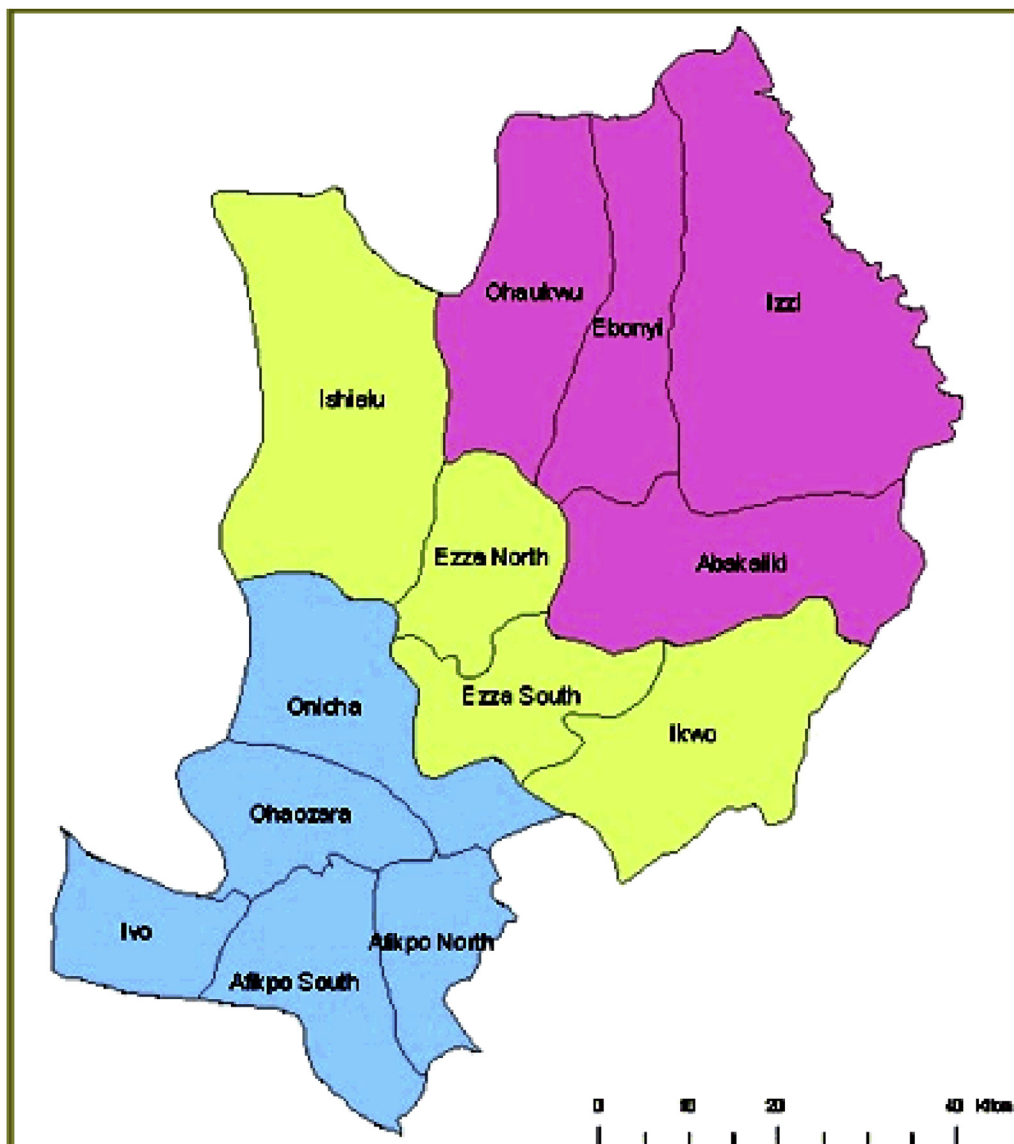


Figure 1. Map showing Ebonyi Local Government Areas and Senatorial Zones. Source: Ajah, Nnam, Ajah, Idemili-Aronu, Onyejebu and Agboti (2021).

with farming as the major occupation (Ajah et al., 2020; Ezegwui et al., 2013). Ebonyi State is bounded in the east by Cross River State; in the west by Enugu State; in the north by Benue State and in the south by Abia State. Ebonyi State has 13 local government areas. Out of the 13 local government areas, 2 comprising Abakaliki and Afikpo North are urban while the rest are rural areas (Nnamani et al., 2021). The capital of Ebonyi State is Abakaliki. The state is inhabited by predominant Igbo ethnic group and majority of them are Christians.

2.2. Study design

This was a 20-year retrospective study in which data on rape from January 1999 to December, 2018 were collated with a pro forma at the Criminal Investigation Department, Nigerian Police Force, State Headquarters, Abakaliki. Information on the cases that were charged to court was collated at the Directorate of Prosecution, Ebonyi State Ministry of Justice, Abakaliki. The steps taken by the Nigerian Police Force, Ebonyi State Police Command, on rape cases comprise the following: The victim must have been attended to by a medical doctor or forensic expert. A history of where, when and how the rape was perpetrated must have been taken by the doctor/forensic expert. The identity of the perpetrator must also have been sought for. The history taking is usually followed by physical examination of the victim by the doctor or forensic expert. Pictures of the torn clothes and injuries sustained (if any) by the victim are also taken. Thereafter, blood sample is taken and the swab samples, from any of the orifices where there are penile penetrations, are taken. Pubic hairs of the victim in a case that has vaginal penetration are combed and the combed out hair specimen is taken for further forensic analysis. The collected blood sample of the victim is sent for serum pregnancy test, retroviral screening test and hepatitis B and C virus screening test. The collected swab sample is sent for microscopy, culture and sensitivity test. Part of the swab sample is preserved for DNA testing. Blood sample of the perpetrator is also taken for retroviral and hepatitis B and C virus screening tests if the perpetrator is apprehended. Because DNA testing is very expensive, it is usually performed only when the perpetrator is still denying despite the available evidence.

The inclusion criteria comprised all the rape cases confirmed by the doctors/forensic experts. However, the exclusion criteria comprised the cases without doctors'/forensic experts' confirmation. The pro forma contained information on the socio-demographic characteristics of the victims and perpetrators and the outcome of the cases. A child is anybody that is younger than the age of 18 years (UNICEF, 2007). Therefore the victims were classified into 2 groups—"younger than 18 years" and "18 years and above". For the purpose of this study, a neighbor was defined as a person who lived very near to the victim's residence and was well known by the victim while acquaintance was defined as a man whom the victim had met before but did not know well. Multiple perpetrators' rape was defined as a rape by more than one perpetrator occurring within a single rape experience that might or might not be related to gang activity (Horvath and Kelly, 2009). A case of rape was said to be charged to court when the police transferred it to court after establishing the evidence, the perpetrator was in police custody and the victim and her relatives were willing to testify against the perpetrator in the court. However, a case was said not to be charged to court when the victim's and the perpetrator's families had settled by themselves and the victim's family did not want to proceed with the case. It was also not charged to court when the perpetrator was not in police custody, the victim(s) did not know the perpetrator(s) and when the victim(s) was (were) not willing to proceed with the case even when they had not settled with the perpetrator(s). Statistical analysis was done using the Statistical Package for Social Sciences (SPSS) version 20 software (SPSS Inc, Chicago, IL, USA). The chi-square test and student t-test were used to analyze the categorical and continuous variables respectively. A multinomial Logistics Regression (MLR) and Pearson correlation Coefficient were used to determine the influence of the socio-demographic characteristics of the victims and perpetrators on rape of the victims. A *P*-value of less than 0.05 was considered statistically significant. Ethical clearance for the study was obtained from the Ethical Committee of the Federal Teaching Hospital, Abakaliki. Institutional permission was obtained from the Nigerian Police Force, Ebonyi State Police Command and Directorate of Public Prosecution, Ebonyi State Ministry of Justice.

Table 1. Relationship between the social characteristics of the perpetrators and age of the victims.

Characteristics	<18 year victims [N = 7,735 (100%)]	≥18 year victims [N = 1,289 (100%)]	X ²	P-value
Relationship with the victims				
Known to the victims	6,173 (79.8%)	1,101	0.02	0.88
Not known to the victims	1,562 (20.2)			
Type of perpetrator				
Neighbor	3960 (51.2)	92 (7.1)	7.71	0.01*
Acquaintance	829 (10.7)	184 (14.3)	0.70	0.66
Step relation	276 (3.6)	0 (0)	0.52	0.47
Customer	184 (2.4)	0 (0)	0.17	0.68
Parent's friend	921 (11.9)	92 (7.1)	0.00	0.95
Stranger	1,565 (20.2)	856 (66.4)	6.77	0.01*
Armed robbers	0 (0)	65 (5.0)	6.56	0.01*
No of perpetrators involved per case				
One	7,703 (99.6)	1105 (85.7)	6.15	0.01*
Multiple	32 (0.4)	184 (14.3)		
Site of the committed crime				
Bush/uncompleted building	3,039 (39.3)	276 (21.4)	0.97	0.33
Victim's residence	1,750 (22.6)	184 (14.3)	0.12	0.73
Culprit's residence	1,013 (13.1)	460 (35.7)	2.99	0.08
Hotel/guest house	0 (0)	184 (14.3)	6.17	0.01*
School	1,197 (15.5)	0 (0)	1.74	0.19
Market/shop	460 (5.9)	0 (0)	0.78	1.00
Friend's home	276 (3.6)	184 (14.3)	1.09	0.30

* Statistically significant.

3. Results

Out of 9207 rape cases reported to the police over the 20 year period (1999–2018), 9024 (98%) cases had complete data and were analyzed. The median and mean ages of the victims were 14 years and 13.1 ± 6.6 years respectively with their ages ranging from 6 to 56 years. A total of 4052 (44.9%) of the victims were less than 13 years. Majority of the victims were rural dwellers (61.2%), unemployed (90.8%) and had ≤ primary education (68.4%). However the median and mean ages of the perpetrators were 28 years and 30.3 ± 10.6 years respectively and their ages ranged from 18 to 58 years. Also majority of the perpetrators were rural dwellers (61.2%), farmers (40.2%) and had ≤ primary education (58.2%).

The results from Table 1 indicate that victims who were less than 18 years old were more likely to be raped by neighbours when compared with victims that were 18 years and above (P-value = 0.00). However, the victims who were 18 years and above were more likely to be raped by armed robbers than victims who were less than 18 years (P-value = 0.01). While the victims who were less than 18 years old were more likely to be raped by one perpetrator; the victims who were 18 years and above were more likely to be raped by multiple perpetrators (P-value = 0.01). Based on site of the committed crime, the victims who were 18 years and above, were more likely to be raped at the perpetrator's residence and at the hotel/guest house (P = <0.05).

The social habits of the perpetrators and outcome of the cases are contained in Table 2. A total of 67.3% of the perpetrators indulge in recreational drug use comprising alcoholism, cigarette smoking, use of marijuana, use of opioids and combined use of these drugs. Combined usage or poly drug use stood out as 2, 486 participants representing 27.5% reported combined use of two or more of the drugs listed. While majority 8, 286 (91.8%) of the cases were charged to court, the remaining 738 (8.2%) were not charged to court. Furthermore, when considering the reasons for not charging the rape cases to court, majority of participants 499 (67.6) reported that the reason was as a result of the refusal by the victim's family to continue with the case while 239 (32.4%) reported that the reason was that the perpetrators were not apprehended by the law enforcement agencies.

The likelihood ratio Chi-square tests in Table 3 can be considered omnibus tests of the effect of each independent variable in the model. So in this table, residential area was an independent significant factor on the type of perpetrators that raped victims reviewed in the study (P-value = <0.05). Concomitantly, educational status of victims revealed statistical significance as an important construct on the type of perpetrators that raped them (P-value = <0.05); while occupation of victims was also significant as an important variable which contributed to the type of

perpetrators that raped them (P-value = <0.05). On the other hand, age was found not to be a significant factor on the type of perpetrators (P-value = >0.05).

Statistical results in Table 4 show an independent sample t-test of rape victims who lived in urban areas were more likely to be raped by any of the types of perpetrators (Mean = 5.73) than with rape victims who lived in rural areas (Mean = 1.38, t = -339.22, P < 0.05). Similarly, rape victims who lived in urban areas were more likely to be raped on account of the site of crime and social habits of the perpetrators than the rape victims who lived in rural areas (P < 0.05) (see Table 5).

Additionally, a zero-order correlation matrix showing inter-correlations of some variables of interest were explored to ascertain the relationship between types of perpetrator, site of crime committed and social habits of perpetrators. An additional analysis using Pearson Correlations not represented in Table 4 indicates a highly significant result at p < 0.01 level of significance. Site of crime was positively and significantly correlated to type of perpetrator (r = .909; p < 0.01); social habit was positively and significantly related to type of perpetrator (r = .811; p < 0.01) and social habit was positively and significantly related to site of crime committed (r = .795; p < 0.01).

Regression results from Table 6 reveal that social habits of the perpetrators have a significant influence on the rape of the victims (β = .95; t = 131.58; P < 0.05). Table 6 also contains the correlations of variables of interest. The regression yielded a coefficient of multiple correlation (R) of .811 and multiple correlation square (R²) of .657. This implies that 65.7% of the variance in committing acts of rape was accounted for by the combined effect of the social habits of participants such as alcoholism, cigarette smoking, use of marijuana and use of opioids.

Figure 2 shows comparative analysis of reported cases (cases charged to court) and convicted rape cases from 1999 to 2018. The reported cases ranged from 308 to 448 and totaled 8,286 reported cases over the 20 year period. The analysis shows that 2018 reported the highest number of rape (448 cases), quickly followed by the year 2104 with 444 cases and the year 2016 with 441 cases. The convicted perpetrators ranged from 9 to 16 from 1999 to 2018 and totaled 242 over the period. The proportion of perpetrators of the reported cases that was convicted was 2.92%; while Years 2003, 2008, 2013, and 2018 reported the lowest number of convicted cases; while Years 2007, 2014, and 2017 reported the second highest number of convicted cases (15 cases). For the highest number of convicted cases, years 2001 and 2005 were outstanding with 16 cases. Despite being the years with the highest number of convicted cases when placed side by side with number of reported cases they did, year 2001 had 403 while year 2005 had 413 reported cases. The implication is that year 2001 had a 3.97% convicted of all 403 reported cases while year 2005 had a 3.87% convicted of all 413 reported cases.

4. Discussion

The victims' age range in this study is similar to 2–47 years and 2–50 years previously reported in Enugu and Lagos respectively (Nnam et al., 2021; Eze et al., 2020; Ohayi et al., 2015; Akinlusi et al., 2014). This is however higher than 2–23 years and 4–25 years reported in Calabar and Benin, Nigeria respectively (Ugwuoke et al., 2020; Akhiwu et al., 2013; Ekabua et al., 2006). The mean age of the victims at 13.1 ± 6.6 years is similar to 13.1 ± 8.1 years and 13.73 ± 6.46 years reported in Enugu and Benin respectively (Enobakhare et al., 2018; Ohayi et al., 2015). The children constituting majority of the victims in this study is similar to the previous reports in other Nigerian centres (Enobakhare et al., 2018; Ohayi et al., 2015; Daru et al., 2011; Akinlusi et al., 2014; Akhiwu et al., 2013; Adeleke et al., 2012; Ekabua et al., 2006). The similarity of the findings of this study with previous studies in Lagos, Benin and Calabar may be explained by the similarities in social lifestyles across Southern parts of Nigeria. The finding that majority of the victims were children agrees with World Health Organization (WHO) estimate which showed that over 150 million girls younger than 18 years had experienced forced sexual intercourse or other forms of sexual violence involving physical

Table 2. The social habits of the perpetrators and outcome of the cases.

Social habits*	Frequency (N = 9,024)	%
Alcoholism	1,381	15.3
Cigarette smoking	1,013	11.2
Use of marijuana	737	8.2
Use of opioids	460	5.1
Combined use ^α	2,486	27.5
None	2,762	30.6
Unknown	184	2.0
Outcome of police handling of the cases	Frequency(N = 9024)	%
Charged to court	8,286	91.8
Not charged to court	738	8.2
Reasons for not charging the cases to court	Frequency(N = 738)	%
Refusal by the victim's family to continue with the case	499	67.6
The perpetrators were not apprehended.	239	32.4

* More answers could be ticked.

^α Use of more than one drug.

Table 3. Table of likelihood ratio chi-square tests.

Effect	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC of Reduced Model	BIC of Reduced Model	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	12699.676	13126.135	12579.676 ^a	.000	0	
Age	12688.578	13072.391	12580.578 ^b	.902	6	.989
Residential Area	15173.229	15557.042	15065.229 ^b	2485.553	6	.000
Education Status	17131.985	17387.861	17059.985 ^b	4480.309	24	.000
Occupation	1925970.157	1926268.678	1925886.157 ^b	1913306.480	18	.000

Table 4. Comparison of rural and urban residential areas on type of perpetrators, site of crime committed and social habits on patterns of rape of victims in Ebonyi State.

Variable	N	Variables	Mean	St. Dev.	Df	t	Sig.
RAOV	Rural	Type of perpetrator	1.38	.73	9022	-339.22	<0.05
		Site of crime	1.45	.59		-128.44	
		Social habit	1.63	1.63		-120.50	
	Urban	Type of perpetrator	5.73	.48			
		Site of crime	4.66	1.40			
		Social habit	5.90	.45			

Note: RAOV = Residential Area of Victim.

Table 5. Summary of zero-order correlation depicting inter-correlations of type of perpetrator, site of the crime committed, and social habits of reviewed participants.

Variables	TOP	SCC	SH
TOP	1		
SCC	.91**	1	
SH	.81**	.80**	1

NB: TOP = Type of perpetrator; SOTCC = Site of the Crime Committed; SH = Social Habits.

*Correlation significant at the 0.05 level.

**Correlation significant at the 0.01 level.

contact (UNICEF, 2015). The preponderance of children among the victims of rape in this area underscores the need for training of young girls on self-defense against sexual assault in this environment. Sinclair and his co-authors had reported the effectiveness of such self-defense training program in reducing the incidence of sexual assault among school girls in an urban slum (Sinclair et al., 2013). The high proportion of rape cases occurring in schools in this study is worrisome. This necessitates perimeter fencing of schools and provision of adequate security in Ebonyi State schools.

The finding in this study that most of the perpetrators are known to the victims is similar to the previous reports in Nigeria and Ethiopia but differs from a report from Brazil where 72.3% of the perpetrators were not known by the victims (Ajah and Okpa, 2019; Ohayi et al., 2015; Adogu et al., 2014; Amenu and Hiko, 2014; Blake et al., 2014; Daru et al., 2011). The reason for the difference in sub-Saharan African and Brazilian findings may be because of the socio-cultural differences between the 2 regions. This finding raises the need for more parental education of young girls on the need to exercise due caution in their dealings with males, whether known to them or not. Awareness by young girls that people close to them can become perpetrators of rape will ensure that girls do not knowingly put themselves in situations that can make rape

possible. This study showing that recreational drug use by the perpetrators has a significant association with rape of their victims is supported by previous reports in the United States of America and New Zealand where recreational drug use potentiated the risk of sexual assault (Busch-Armendariz et al., 2010; Connor et al., 2009). The reason recreational drugs potentiate the risk of sexual assault may be because these drugs cause physiological arousal, feeling of exhilaration and well-being and the loss of appetite, pain and tiredness. Therefore this underscores the need for the provision of rehabilitative facilities in the prisons for the rehabilitation of incarcerated perpetrators who indulge in recreational drug use. It is also highly recommended that the rehabilitation of such perpetrators is continued even after their release from prisons in order to prevent relapse. This study showing the victims in urban areas being more predisposed to be raped on account of the types of perpetrators, site of committed crime and social habits of the perpetrators when compared with rural areas underscores the need for more public sensitization on this challenge.

Though, 91.8% of rape cases were charged to court in this study, it could be worrisome that the remaining 8.2% was not charged to court. This may be due to the stigma-induced unwillingness of the victims and their families to testify against the perpetrators of this crime or the inability of the law enforcement agents to apprehend the perpetrators. The proportion of rape cases charged to court in this study is however higher than 37% of reported rape cases prosecuted in the United Kingdom (UK Center for Research on Violence Against Women, 2010). This study showing that it was only 2.9% of rape cases charged to court that were convicted is worrisome. This could be caused by the refusal of the victims and their families to continue with the case, lack of prosecution witnesses and improper presentation of the case in court by the prosecution team. This paltry conviction could also be caused by delay in the criminal justice system and paucity of forensic facilities in Nigeria. Refusal of the victims and their families to continue with the case could be caused by out-of-court settlement of the case between the victim's and perpetrator's families, mortification from stigma associated with rape and poverty. The cost of providing logistics for taking the prosecution team

Table 6. Linear regression to determine whether social habits contribute to a perpetrator committing acts of rape.

Variables	B	SE	Beta	t-value	P	R	R ²	F	Sig.
Constant		-.91	.03	-27.52	<0.05				
Social habits	.95	.01	.81	131.58	<0.05	.811	.657	173.56	<0.05

Note: N = 9024; CI = Confidence Interval; SE = Standard Error; *P < 0.05.

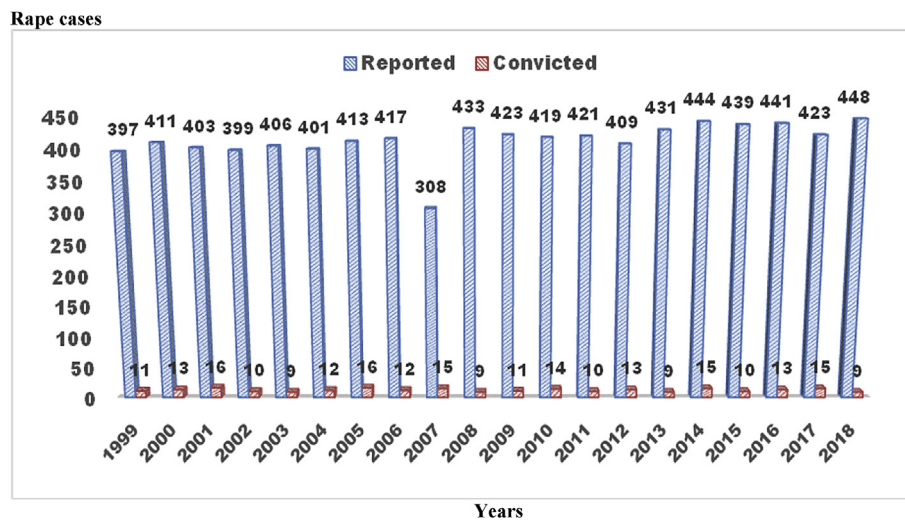


Figure 2. A Comparative Analysis of Reported (cases charged to court) and Convicted Rape Cases from 1999 to 2018.

and witnesses to court at different court sessions might be too exorbitant to the victim's family and this may make them discontinue with the case. Female education and women empowerment could help reduce the rape associated stigma thereby enhancing the persistence of the victims towards logical conclusion of the case.

The limitations of this study include its retrospective design. Because of the stigma associated with rape, most rape cases are not reported. The Section 357 of the Criminal Code Act, CAP 77, LFN 1990 of Nigerian law has further limited the actual number of rape cases in this environment. With the exception of forceful penile penetration of the vagina, this law excludes anal sex and other forms of sex which are becoming common in the world. Section 357 of the Criminal Code Act, CAP 77, LFN 1990 of Nigerian law also completely excludes marital rape from the victim's husband. Despite these limitations, the authors compiled an informative diary of rape cases in Ebonyi State over a 20 year period.

In conclusion, the police-reported rape cases in Ebonyi State were high. However, only 2.9% of the perpetrators were convicted by the courts. There was an association between recreational drug use by the perpetrators and rape of the victims. There was also a nexus among types of perpetrators, site of committed crime and social habits of the perpetrators with rape of the victims. Victims in urban residential areas were more likely to be raped based on the types of the perpetrators, site of the crime committed and social habits of the perpetrators than the victims in rural areas. Measures to curb recreational drug use may be useful in stemming the tide of increasing cases of rape in the state. The Nigerian law on rape needs to be reviewed and strengthened to broaden its scope and help punish the perpetrators in order to serve as deterrents to others. Female education and women empowerment will help reduce rape and its associated stigma thereby enhancing the perseverance of the victims to the logical conclusion of the case. The cost of forensic facilities needs to be subsidized in Nigeria to help in conviction of more perpetrators of rape. There should be intensive sensitization of the public on the harmful effects of rape and the various ways of stemming the tide in our environment. A case controlled study is required to determine if there is an association between the use of each of the recreational drugs and rape of victims among the perpetrators.

Declarations

Author contribution statement

Leonard Ogbonna Ajah, Benjamin Okorie Ajah, (Oguejiofo C.P. Ezeanya): Analyzed and interpreted the data; Wrote the paper.

Monique Iheoma Ajah, Emeka Ogah Onwe: Contributed reagents, materials, analysis tools or data; Wrote the paper.

Benjamin Chukwuma Ozumba, Chukwuemeka Anthony Iyoke, Theophilus Ogochukwu Nwankwo: Conceived and designed the analysis; Wrote the paper.

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Data included in article/supplementary material/referenced in article.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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References

- Adeleke, N.A., Olowookere, A.S., Hassan, M.B., Komolafe, J.O., Asekun-Olarinmoye, E.O., 2012. Sexual assault against women at oshogbo south-western Nigeria. *Niger. J. Clin. Pract.* 15 (2), 190–193.
- Adogu, P.O., Adinma, E.D., Onyiaorah, V.I., Ubajaka, C.F., 2014. Perception, prevalence and predictors of rape among female students in a tertiary institution. *Int. J. Clin. Med.* 5 (14), 819–828.
- Ajah, L.O., Iyoke, C.A., Nkwo, P.O., Nwakoby, B., Ezeonu, P., 2014. Comparison of domestic violence against women in urban versus rural areas of southeast Nigeria. *Int. J. Womens Health* 8 (6), 865–872.
- Ajah, B.O., Nnam, M.U., Ajah, I.A., Idemili-Aronu, N., Chukwuemeka, O.D., Agboti, C.I., 2021. Investigating The Awareness of Virtual and Augmented Realities as a Criminal Justice Response to the Plight of Awaiting-Trial Inmates in Ebonyi State, Nigeria. *Crime, Law and Social Change*.
- Ajah, B.O., Ajah, A.I., Obasi, C.O., 2020a. Application of virtual reality (VR) and augmented reality (AR) in the investigation and trial of herdsmen terrorism in Nigeria. *Int. J. Crim. Justice Sci.* 15 (1), 1–20.
- Ajah, B.O., Dinne, C.E., Salami, K.K., 2020b. Terrorism in contemporary Nigerian society: conquest of boko-haram, myth or reality. *Int. J. Crim. Justice Sci.* 15 (1), 312–324.

- Ajah, B.O., Uwakwe, E.E., Nwokeoma, B.N., Ugwuoke, C.O., Nnamani, R.G., 2020c. Ameliorating the plight of awaiting-trial inmates in Ebonyi State, Nigeria through reasonable bail condition. *Pertanika J. Social Sci. Human.* 28 (4), 2897–2911.
- Ajah, B.O., Okpa, J.T., 2019. Digitization as a solution to the problem of awaiting-trial inmates in Ebonyi State, Nigeria. *Int. J. Crim. Justice Sci.* 14 (2), 199–207.
- Ajah, B.O., Ugwuoke, C.O., 2018. Juvenile justice administration and child prisoners in Nigeria. *Int. J. Crim. Justice Sci.* 13 (2), 438–446.
- Ajah, B.O., 2018. Educational training of inmates in awka and Abakaliki prisons, Nigeria. *J. Int. J. Criminal Justice Sci.* 13 (2), 299–305.
- Anthony, E.O., Obasi, C.O., Obi, D.O., Ajah, B.O., Okpan, O.S., Onyejegbu, C.D., Obiwulu, A.C., Onwuama, E.M., 2021. Exploring the reasons for perennial attacks on churches in Nigeria through the victims' perspective. *HTS Teologiese Studies/Theological Studies* 77 (1), a6207.
- Areh, C.E., Onwuama, E.M., Ajah, B.O., 2020. Social consequences of wife-battering in Ogbaru and Onitsha north local government areas of Anambra State, Nigeria. *FWU J. Social Sci.* 14 (4), 80–92.
- Akhiwu, W., Umanah, I.N., Oluhetto, A.N., 2013. Sexual assaults in Benin city, Nigeria. *TAF Prev. Med. Bull.* 12 (4), 377–382.
- Akinlusi, F.M., Rabiu, K.A., Olawepo, T.A., Adewunmi, A.A., Ottun, T.A., Akinola, O.I., 2014. Sexual assault in Lagos, Nigeria: a five year retrospective review. *BMC Wom. Health* 14, 115.
- Amenu, D., Hiko, D., 2014. Sexual assault: pattern and related complications among cases managed in Jimma University Specialized Hospital. *Ethiop. J. Health Sci.* 24 (1), 3–14.
- Bacchus, L., Bewley, S., Gillian, M., 2001. Domestic violence and pregnancy. *Obstet. Gynecol.* 3, 56–59.
- Blake, M.T., Drezett, J., Vertamatti, M.A., Adami, F., Valenti, V.E., Paiva, A.C., 2014. Characteristics of sexual violence against adolescent girls and adult women. *BMC Wom. Health* 14, 15.
- Briggs, O.E., 2003. Women's Right under Nigerian Criminal Law. Monograph.
- Busch-Armendariz, N.B., DiNitto, D.M., Bell, H., Bohman, T., 2010. Sexual assault perpetrators' alcohol and drug use: the likelihood of concurrent violence and post-sexual assault outcomes for women victims. *J. Psychoact. Drugs* 42 (3), 393–399.
- Caffo, E., Belaise, C., 2003. Psychological aspects of traumatic injury in children and adolescents. *Child Adol. Psychiatr. Clin. J.* 12, 493–535.
- Connor, J., You, R., Casswell, S., 2009. Alcohol-related harm to others: a survey of physical and sexual assault in New Zealand. *N. Z. Med. J.* 25, 10–20. PMID: 19851416.
- Danielson, C.K., Holmes, M.M., 2004. Adolescent sexual assault: an update of the literature. *Curr. Opin. Obstet. Gynecol.* 16, 383–388.
- Daru, P.H., Osagie, E.O., Pam, I.C., Mutihir, J.T., Silas, O.A., Ekwempu, C.C., 2011. Analysis of cases of rape as seen at the Jos university teaching hospital, Jos, north Central Nigeria. *Niger. J. Clin. Pract.* 14 (1), 47–51.
- Ekabua, J.E., Agan, T.U., Iklaki, C.U., Elkanem, E.I., Itam, I.H., Ogaji, D.S., 2006. Trauma related to sexual assault in calabar, south eastern Nigeria. *Niger. J. Med.* 15 (1), 72–74.
- Enobakhare, E., Eromon, P., Ohenhen, V., Odiko, D., 2018. Prevalence and pattern of rape in children and young persons in a Specialist Hospital in Benin City, South-South, Nigeria. *IOSR J. Dent. Med. Sci.* 17 (10), 69–76.
- Eze, O.J., Obi, D.O., Ajah, B.O., 2020. Nigerian criminal justice system and victims of crime neglect in Enugu Urban. *FWU J. Social Sci.* 14 (3), 41–53.
- Ezegwui, H.U., Onoh, R.C., Ikeako, L.C., Onyebuchi, A.K., Umeora, O.U., Ezeonu, P.O., 2013. Investigating maternal mortality in a public teaching hospital, Abakaliki, Ebonyi State, Nigeria. *Ann. Med. Health Sci. Res.* 3 (1), 75–80.
- Haile, R.T., Kebeta, N.D., Kassie, G.M., 2013. Prevalence of sexual abuse of male high school students in Addis Ababa, Ethiopia. *BMC Int. Health Hum. Right* 13, 24.
- Home Office, 2004. *Guidance on Part 1 of the sexual offences act 2003*. Home Office Circular, 2004, 021 s.1 (1). Retrieved from. <https://www.gov.uk/government/publications/guidance-on-part-1-of-the-sexual-offences-act-2003>.
- Horvath, M.A.H., Kelly, L., 2009. Multiple perpetrator rape: naming an offence and initial research findings. *J. Sex. Aggress.* 15 (1), 83–96.
- Ibrahim, M.S., Yusuf, H.E., Lawal, B.B., Bashir, S.S., 2017. Prevalence, pattern and psychosocial effects of rape among female undergraduates in Zaria, North-western Nigeria. *Sierra Leone J. Biomed. Res.* 9 (1), 22–27.
- Kullima, A.A., Kawuwa, M.B., Audu, B.M., Mairiga, A.G., Bukar, M., 2010. Sexual assault against female Nigerian students. *Afr. J. Reprod. Health* 14 (3), 193–204. PMID: 21495612.
- Nnam, M.U., Effiong, J.E., Iloma, D.O., Terfa, I.M., Ajah, B.O., 2021. Hazardous drinking and the dark triad: an antidote for manipulative behaviour among students. *Curr. Psychol.* 40 (4), 1–7.
- Nnamani, G.R., Ilo, K.O., Onyejegbu, D.C., Ajah, B.O., Onwuama, M.E., Obiwulu, A.C., Nzeakor, O.F., 2021. Use of noncustodial measure and independent monitoring body as panacea to awaiting-trial problems in Ebonyi state, Nigeria. *Int. J. Crim. Justice Sci.* 16 (1), 51–63.
- Ohayi, R.S., Ezugwu, E.C., Chigbu, C.O., Arinze-Onyia, S.U., Iyoke, C.A., 2015. Prevalence and pattern of rape among girls and women attending Enugu state university teaching hospital, southeast Nigeria. *Int. J. Gynecol. Obstet.* 130 (1), 10–31.
- Onyejekwe, C., 2008. Nigeria: the dominance of rape. *J. Int. Wom. Stud.* 10 (1), 48–63. <http://vc.bridgew.edu/jiws>.
- Sinclair, J., Sinclair, L., Otieno, E., Mulinge, M., Kappahnn, C., Golden, N.H., 2013. A self-defense program reduces the incidence of sexual assault in Kenyan adolescent girls. *J. Adolesc. Health* 53 (3), 374–380.
- Ugwuoke, C.O., Ajah, B.O., Onyejegbu, C.D., 2020. Developing patterns of violent crimes in Nigerian democratic transitions. *Aggress. Violent Behav.* 53, 1–8.
- UK Center for Research on Violence against Women, 2010. *Top Ten Things Advocates Need to Know*. University of Kentucky, United Kingdom. Retrieved from. www.uky.edu/CRVAW.
- UNICEF, 2007. *Child Marriage and the Law: Legislative Reform Initiative Paper Series*. Retrieved from. http://www.unicef.org/Child_Marriage_and_the_Law.pdf.
- UNICEF, 2015. *Child protection from Violence, Exploitation and abuse. Sexual Violence against Children*. Retrieved from. http://www.unicef.org/protection/57929_58006.
- World Health Organization, 2013. *Global and Regional Estimates of Violence against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-partner Sexual Violence*. World Health Organisation. Retrieved from. <http://www.who.int/reproductive-health/publications/violence/9789241564625/en/>. (Accessed 5 October 2017).